

What is claimed is:

1. An endoscopic auditory canal cleaning apparatus comprising:

a light source for generating light,

5 an ear picking main body so formed as to guide the light generated by said light source to be guided to the leading terminal thereof,

an ear picking part furnished with a surface layer made of a fibrous material adapted to be disposed in said ear picking main body by exposing said leading terminal,

10 an image incorporating means for taking in an image of the interior of the auditory canal radiated by the light guided to the leading terminal of said ear picking main body,

a display means for displaying the image incorporated by said image incorporating means, and

15 a holding means furnished with a hollow mouth to be penetrated by said image incorporating means and allowed to rotate freely around said image incorporating means as the central axis with said ear picking main body kept in a held state.

20 2. An endoscopic auditory canal cleaning apparatus according to claim 1, which further comprises a light guide for guiding the light generated by said light source to the leading terminal and radiating the interior of the auditory canal.

25 3. An endoscopic auditory canal cleaning apparatus according to claim 2, wherein the radiating part of said light guide and the image incorporating part of said image incorporating means protrude from said holding means in nearly same amounts.

30 4. An endoscopic auditory canal cleaning apparatus according to claim 1, wherein said ear picking main body is

removable from said holding means.

5. An endoscopic auditory canal cleaning apparatus according to claim 1, wherein said ear picking part is removable from said ear picking main body.

5 6. An endoscopic auditory canal cleaning apparatus according to claim 5, wherein

said ear picking part comprises said surface layer and a base having formed therein a through hole for holding said surface layer and allowing insertion therein of said ear  
10 picking main body,

said base is formed of an elastic body, and

said ear picking main body comprises a first engaging part penetrating said through hole while keeping said base elastically deformed and a second engaging part colliding  
15 against the end face on the basal terminal side of said base and holds said ear picking part between said first engaging part and second engaging part.

7. An endoscopic auditory canal cleaning apparatus according to claim 6, wherein said ear picking main body is  
20 furnished with an energizing member exerting upon said base the force directed toward expanding said through hole.

8. An endoscopic auditory canal cleaning apparatus according to claim 6, wherein said ear picking main body is furnished between said first engaging part and said second  
25 engaging part with an engaging projection for engaging said ear picking part.

9. An endoscopic auditory canal cleaning apparatus according to claim 2, wherein a plurality of said light sources are provided.

30 10. An endoscopic auditory canal cleaning apparatus according to claim 1, wherein said ear picking part is disposed within the field of view of said image incorporating means.

11. An endoscopic auditory canal cleaning apparatus according to claim 1, wherein

said image incorporating means is a fiber scope furnished at the leading terminal thereof with an image micro lens and  
5 said display part causes an image picked up by said image micro lens to be displayed as magnified.

12. An endoscopic auditory canal cleaning apparatus according to claim 1, wherein

said image incorporating means is an image sensor and  
10 said display part subjects the signal from said image sensor to image processing and displays the image consequently formed.

13. An endoscopic auditory canal cleaning apparatus according to claim 1, wherein said ear picking main body can  
15 be substituted with a spoon-type ear picking main body furnished at the leading terminal thereof with a picking part of the shape of a spoon and formed so as to guide the light to the leading terminal.

14. An endoscopic auditory canal cleaning apparatus  
20 according to claim 1, wherein said ear picking main body can be substituted with an annular ear picking main body furnished at the leading terminal thereof with a plurality of annular ear picking parts and formed so as to guide the light to the leading terminal.

25 15. An endoscopic auditory canal cleaning apparatus according to claim 1, which further comprises a mechanism of movement for causing said ear picking main body revolved around said image incorporating means in consequence of the rotation of said holding means to be rotated as interlocked  
30 or not interlocked with said revolution.

16. An endoscopic auditory canal cleaning apparatus comprising:

a light source for generating light,  
a light guide for guiding the light generated by said  
light source to the leading terminal thereof and radiating  
the interior of the auditory canal,  
5 an ear picking main body shaped like a bar,  
an ear picking part disposed on the outer periphery of  
the leading terminal of said ear picking main body and furnished  
with a surface layer made of a fibrous material,  
an image incorporating means for incorporating an image  
10 of the interior of the auditory canal radiated by said light  
guide,  
a display means for displaying the image incorporated  
by said image incorporating means, and  
a holding means furnished with a hollow mouth to be  
15 penetrated by said image incorporating means and allowed to  
rotate freely around said image incorporating means as the  
central axis with said ear picking main body kept in a held  
state.

17. An endoscopic auditory canal cleaning apparatus  
20 according to claim 16, wherein the radiating part of said  
light guide and the image incorporating part of said image  
incorporating means protrude from said holding means in nearly  
same amounts.

18. An endoscopic auditory canal cleaning apparatus  
25 according to claim 16, wherein said ear picking main body  
is removable from said holding means.

19. An endoscopic auditory canal cleaning apparatus  
according to claim 16, wherein a plurality of said light sources  
are provided.

30 20. An endoscopic auditory canal cleaning apparatus  
according to claim 16, wherein said ear picking part is disposed  
within the field of view of said image incorporating means.

21. An endoscopic auditory canal cleaning apparatus according to claims 16, wherein

said image incorporating means is a fiber scope furnished at the leading terminal thereof with an image micro lens and  
5 said display part causes an image picked up by said image micro lens to be displayed as magnified.

22. An endoscopic auditory canal cleaning apparatus according to claim 16, wherein

said image incorporating means is an image sensor and  
10 said display part subjects the signal from said image sensor to image processing and displays the image consequently formed.

23. An endoscopic auditory canal cleaning apparatus according to claim 16, wherein said ear picking main body  
15 can be substituted with a spoon-type ear picking main body furnished at the leading terminal thereof with a picking part of the shape of a spoon and formed so as to guide the light to the leading terminal.

24. An endoscopic auditory canal cleaning apparatus  
20 according to claim 16, wherein said ear picking main body can be substituted with an annular ear picking main body furnished at the leading terminal thereof with a plurality of annular ear picking parts and formed so as to guide the light to the leading terminal.

25. An endoscopic auditory canal cleaning apparatus  
25 according to claims 16, which further comprises a mechanism of movement for causing said ear picking main body revolved around said image incorporating means in consequence of the rotation of said holding means to be rotated as interlocked  
30 or not interlocked with said revolution.